

YUCCA MOUNTAIN PROJECT

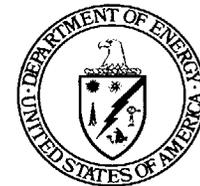
Studies

Introduction

Presented to:
NRC/DOE Technical Exchange
License Application Plan

Presented by:
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U.S. Department of Energy
Office of Civilian Radioactive
Waste Management

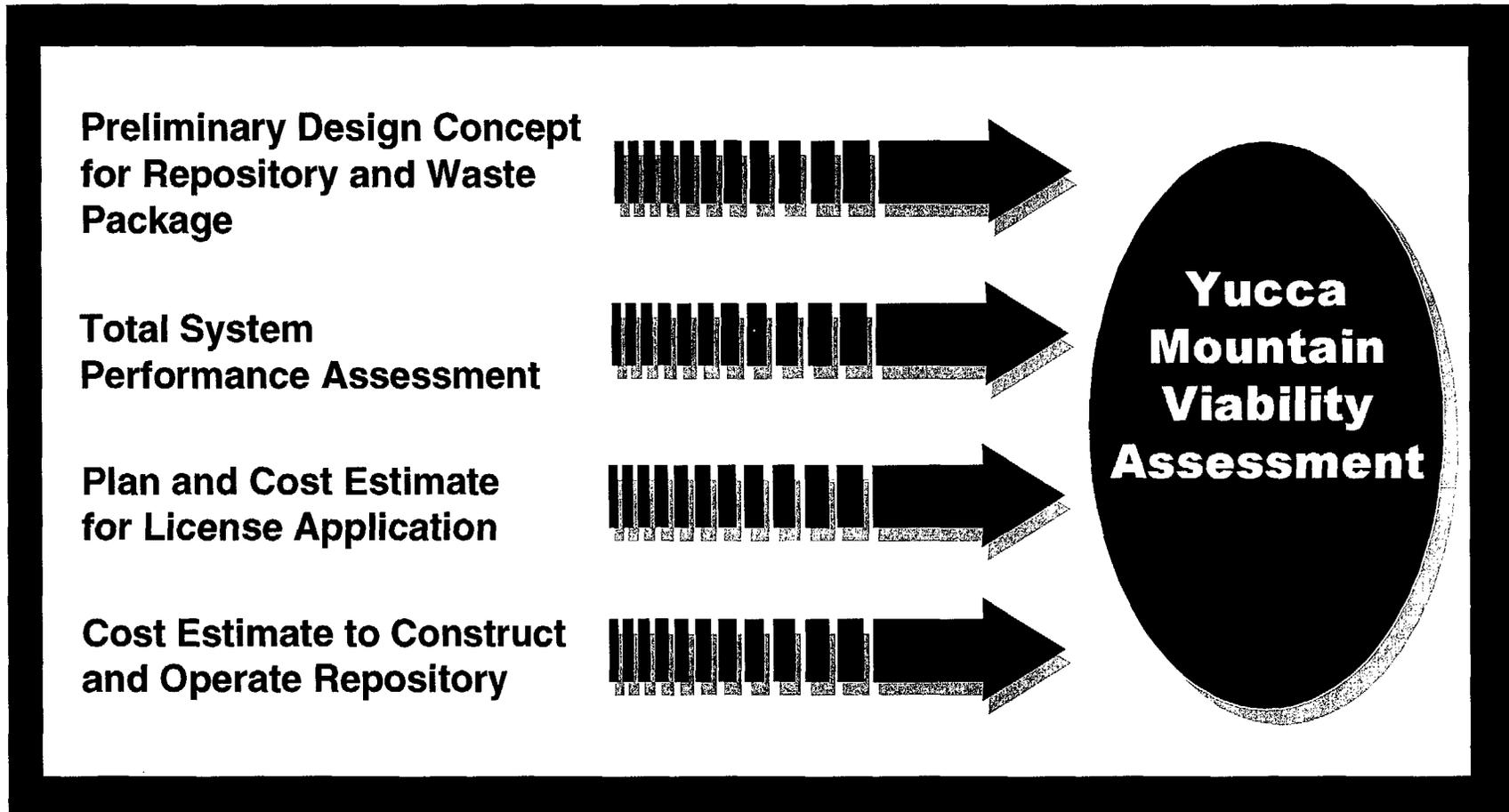
Tim Sullivan

Purpose of the Technical Exchange

- **Describe the organization and contents of LA Plan -- Volume 4 of the Viability Assessment (VA)**
- **Explain the relationship of the LA Plan to other volumes of the VA and supporting documents**
- **Present the current repository safety strategy incorporated in the LA Plan**
- **Set the stage for subsequent interactions on DOE's plans to move forward to the LA**

Viability Assessment

Congress and OCRWM Directed Preparation and Submittal of a Viability Assessment by Late 1998



Viability Assessment Status

- **Viability Assessment of a Repository at Yucca Mountain was completed on Sept. 11, 1998**
- **YMP expects to respond to HQ comments** *next month or two*
- **Transmittal to Congress and public release expected in November 1998**

Viability Assessment and Supporting Technical Documents*

1997 Legislated
Viability Assessment

Viability
Assessment

VOLUME 1

Overview
Introduction
Site
Description*

VOLUME 2

Viability
Assessment
Reference
Design
Concept*

VOLUME 3

Total System
Performance
Assessment*

VOLUME 4

License
Application
Plan and
Costs*

VOLUME 5

Costs to
Construct
and Operate
Repository*

Technical
Documents

Site
Description*

Process
Model
Reports*

Surface,
Subsurface,
and Waste
Emplacement
Design
Analyses
and Drawings*

Technical Basis
for Total System
Performance
Assessment*

Expert
Elicitation
Reports*

Repository
Safety
Strategy*

Viability
Assessment
Technical
Record*
(200+ documents,
25,000+ pages)

Legislated
Companion
Documents

Analysis of
the Total
System Life
Cycle Cost
Report*

Nuclear
Waste Fund
Fee
Adequacy
Report*

* Red-Highlighted Documents will be Internet Accessible

Copies of available materials may be obtained by
accessing the Yucca Mountain Site
Characterization Office Home Page at
<http://www.ymp.gov/va.htm>
or by calling the Yucca Mountain Information
Office at 1-800-225-6972

Viability Assessment Product: Volume 1

- **Introduction**

- **Overview of the VA**

- **Introduction to the VA includes identification of the principal factors of expected repository performance**

- **Characteristics of the Yucca Mountain site**

- **Summarizes our current understanding of the natural systems from the Yucca Mountain Site Description**

- **References KTIs**

- **Provides background for discussion of future technical work in Volume 4 -- LA Plan**

Viability Assessment Product: Volume 2, VA Design

- **Reference repository design used in TSPA-VA and VA cost estimate**
 - **Surface facilities**
 - **Subsurface facility**
 - **Waste packages design and materials testing**
 - **Relationships of principal factors to specific areas of design work are identified**
- **Current understanding of EBS design options and repository design alternatives is described as background for evaluations in the LA Plan culminating in the initial selection of the LA reference design in FY 99**

Viability Assessment Product: Volume 3, TSPA-VA

- Based on current information TSPA-VA provides an assessment of the performance of the reference design at Yucca mountain for time periods of 10,000, 100,000, and 1,000,000 years
- Sensitivity studies compare those results with
 - Effects of disruptive events (igneous activity, seismic, criticality, human intrusion)
 - Effects of design options (ceramic coating and backfill, drip shield and backfill)
- Sensitivity studies also identify and evaluate principal factors of expected repository performance and their importance to TSPA-VA results

Repository Safety Strategy

- **The Waste Containment and Isolation Strategy, now called the Repository Safety Strategy (RSS), explained the roles of the natural and engineered systems in assessing the performance of the site**
- **RSS rev.1 described the framework for developing the postclosure safety case in terms of key attributes and hypotheses used to evaluate the key attributes**
- **To establish a closer link to TSPA the RSS is now described in the LA Plan in terms of key attributes and principal factors of expected repository performance**

Viability Assessment Product: Volume 4, LA Plan

- **Explains framework for preclosure and postclosure safety cases**
- **Describes the remaining technical work required to complete the postclosure and preclosure safety cases for the SR and the LA**
- **Includes statutory activities and support services leading to SR and LA**
- **Provides a cost estimate and schedule for that work**

Planning Information

- LA Plan contains a summary of work scope, cost & schedule to LA submittal (March 2002) developed from the Project Summary Schedule (PSS) and Multiyear plan (MYP)
202 ~~planned~~ actively and subordinate milestones
- PSS is the controlled schedule of DOE milestones leading to the LA submittal that served as the framework for the MYP
65 milestones
- MYP is the detailed workscope, cost and schedule information contained in the Project Accounting & Control System that is used to monitor our performance
65 milestones > 2000
- As new information from site, design, and PA become available the multiyear plan will evolve

VA & the KTIs

- **How technical work relates to the NRC KTI Sub-Issues is addressed in Volumes 1, 2, and 3**
- **Status of NRC KTI Sub-Issues and further work needed is addressed in Volume 4**
- **NRC concerns with TSPA-VA approach (as expressed in July 6 correspondence) are addressed in Volumes 3 and 4, and the TSPA-VA Technical Basis**

Summary

- **The LA Plan provides the plan and cost estimate to submittal of an LA as directed by Congress and the OCRWM Program Plan**
- **As described in the LA Plan DOE will continue to refine the repository safety strategy and focus on remaining technical issues for the SR and LA**
- **DOE's near term objectives remain**
 - **Submit the VA to Congress in 1998**
 - **Complete EIS in 2000**
 - **Complete the SR process in 2001**
 - **If Yucca Mountain is suitable, submit a docketable LA in 2002**

Assumes it is budget sufficient to address needs